

Mineral Industry Surveys

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TUNGSTEN IN AUGUST 1999

U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder produced from hydrogen-reduced metal powder, was 10% lower during the first 8 months of 1999 than net production during the same period in 1998, according to the U.S. Geological Survey.

U.S. reported consumption of ferrotungsten, tungsten metal powder, tungsten carbide powder, tungsten scrap, and other tungsten materials during January through August of 1999 was 15% lower than that of the same period in 1998. These materials were used to make alloys, cemented carbides, mill products, catalysts, and pigments.

Data for U.S. imports and exports for August 1999 will be published in a subsequent issue.

Note

All data in this report have been rounded to no more than three significant digits. Totals and percentages were calculated by using unrounded data.

New publication

The U.S. Geological Survey has recently published a compilation of historical reviews of metal prices entitled *Metal Prices in the United States through 1998*. This publication is available in PDF format from the USGS minerals information web page at URL http://minerals.usgs.gov/minerals/pubs/metal_prices/. Published copies of the entire 179-page book can be purchased from the U.S. Government Printing Office (GPO) for \$17.00 (\$21.25 foreign). The GPO stock number is 024-004-02467-4. Information on ordering Minerals Information Team publications from the GPO is available from the USGS minerals information web page at URL <http://minerals.usgs.gov/minerals/pubs/salepub.html>.

Updates

On October 4, the Defense National Stockpile Center (DNSC) announced the results of its September 21 sale of intermediate tungsten materials. The DNSC awarded 111 metric tons (245,000 pounds), contained tungsten, in tungsten carbide powder, 73 tons (160,000 pounds), contained tungsten in

ferrotungsten, and 36 tons (80,000 tons), contained tungsten, in tungsten metal powder. The total value of the tungsten awarded was approximately \$1.01 million. The following companies were awarded material: the Chem-Met Co. of Clinton, MD, Comsup Commodities, Inc. of Fort Lee, NJ, Globe Commodities Exchange & Distribution of Lutry, Switzerland, OMG Americas-Apex Operations of St. George, UT, and Tranzact, Inc. of Lancaster, PA (Defense National Stockpile Center, 1999a).

On October 18, the DNSC announced its plan for the sale of intermediate tungsten materials in the fiscal year 2000, which began October 1, 1999. The maximum amount of each material that can be sold during the fiscal year is as follows: 454 tons (1 million pounds) tungsten carbide powder, 136 tons (300,000 pounds) ferrotungsten, and 68 tons (150,000 pounds) tungsten metal powder. The first bids are due to the DNSC by 10:00 a.m. November 23. If all the material on offer is not sold as a result of the November bids, subsequent offers will be held on the fourth Tuesday of every other month (Defense National Stockpile Center, 1999b). For further information on DNSC's tungsten sales program, please contact Phyllis Shockley, contracting officer, at (703) 767-5482.

Prices for tungsten ore in dollars per metric ton unit from Metal Bulletin are listed below. Prices in dollars per short ton unit were converted from metric ton unit prices and rounded to the nearest dollar. These prices represent combined prices for wolframite and scheelite ores with a minimum tungsten trioxide (WO₃) content of 65%. The prices for September 1 to 30 are as follows:

Low—\$38/metric ton unit WO₃ (\$34/short ton unit WO₃)

High—\$48/metric ton unit WO₃ (\$44/short ton unit WO₃)

References Cited

- Defense National Stockpile Center, 1999a, Stockpile accepts tungsten offers: Fort Belvoir, VA, Defense National Stockpile Center news release, October 4, 1 p.
———1999b, Stockpile amends tungsten carbide powder, ferro, and metal powder solicitation: Fort Belvoir, VA, Defense National Stockpile Center news release, October 18, 1 p.

TABLE 1
U.S. SALIENT TUNGSTEN STATISTICS 1/

(Metric tons, tungsten content)

Period	Concentrate			Reported scrap consumption	Intermediate products		
	Reported consumption	Imports for consumption	Stocks, end of period 2/		Net production 3/	Reported consumption 4/	Stocks, end of period 5/
1998:							
August	W	178	652	312	854	762	1,410
September	377	115	554	252	814	770	1,330
October	W	108	787	302	723	746	1,360
November	W	158	503	223	680	703	1,400
December	449	811	514	178	621	614	1,340
January-December 6/	3,210	4,750	XX	3,300	9,630	8,980	XX
1999:							
January	W	129	519	250 r/	732 r/	695	1,330 r/
February	W	156	509	267 r/	727 r/	697	1,340
March	365	714	490	253 r/	791 r/	694	1,390
April	381	90	449	247 r/	762 r/	626	1,330
May	392	383	447	241 r/	766 r/	623	1,360
June	358	662	W	251 r/	782 r/	608 r/	1,300
July	362	232	481	242 r/	751 r/	650 r/	1,320 r/
August	387	NA	488	250	776	638	1,330
Total 6/	2,250	NA	XX	2,000	6,090	5,230	XX

r/ Revised. NA Not available. W Withheld to avoid disclosing company proprietary data; not included in total or year-to-date. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Reported by consumers.

3/ Net production of tungsten metal powder, tungsten carbide powder, chemicals, and other products.

4/ Includes estimates and scrap.

5/ Reported by producers.

6/ Does not include withheld data.

TABLE 2
U.S. PRODUCTION, CONSUMPTION, AND STOCKS OF
AMMONIUM PARATUNGSTATE, BY MONTH 1/

(Metric tons, tungsten content)

Period	Production	Consumption	Stocks, end of period 2/
1998:			
August	W	846	501
September	W	751	531
October	W	796	552
November	W	414	586
December	W	718	603
January-December 3/	838	9,210	XX
1999:			
January	W	781 r/	621
February	W	715 r/	566
March	W	786 r/	523
April	W	704 r/	521
May	W	710 r/	541
June	W	W	634
July	W	803 r/	556 r/
August	W	701	548
Total 3/	W	5,200	XX

r/ Revised. W Withheld to avoid disclosing company proprietary data; not included in total or year-to-date. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Producers and consumers.

3/ Does not include withheld data.

TABLE 3
U.S. PRODUCTION AND STOCKS OF TUNGSTEN PRODUCTS 1/

(Metric tons, tungsten content)

Product	Net production 2/				Stocks at end of period		
	1999				1999		
	1998	July	August	Year to date	1998	July	August
Metal powder	4,600	345 r/	374	2,870	719	679 r/	708
Tungsten carbide powder (made from metal powder)	5,040	406 r/	402	3,220	576	565	557
Cast and crystalline carbide powder; other	W	W	W	W	W	W	W
Chemicals	W	W	W	W	46	78 r/	67
Total 3/	9,630	751 r/	776	6,090	1,340	1,320 r/	1,330

r/ Revised. W Withheld to avoid disclosing company proprietary data; not included in total.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Gross production less quantity used to make other products in table.

3/ Does not include withheld data.

TABLE 4
U.S. REPORTED CONSUMPTION OF TUNGSTEN, BY END USE IN 1999 1/ 2/ 3/

(Metric tons, tungsten content)

End use	July	August	Year to date
Steel:			
Tool	W	W	W
Other	11 r/	12	105
Superalloys	32	28	247
Other alloys (excludes steels and superalloys) 4/	W	W	W
Cemented carbides 5/	452	445	3,660
Mill products made from metal powder	108	105	836
Chemical uses	W	W	W
Miscellaneous and unspecified	48	48	382
Total	650 r/	638	5,230

r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Does not include materials used in making primary tungsten products.

3/ Includes estimates.

4/ Includes welding and hard-facing rods and materials, wear- and corrosion-resistant alloys, and nonferrous alloys.

5/ Includes diamond bit matrices, cemented and sintered carbides, and cast carbide dies or parts.

TABLE 5
U.S. REPORTED CONSUMPTION AND CONSUMER STOCKS OF TUNGSTEN MATERIALS 1/ 2/ 3/

(Metric tons, tungsten content)

Period	Ferro-tungsten	Tungsten metal powder	Tungsten carbide powder	Scheelite (natural, synthetic)	Tungsten scrap	Other tungsten materials 4/	Total
Consumption:							
1998:							
August	41	125	550	--	38	8	762
September	44	139	534	--	45	8	770
October	40	106	552	--	40	8	746
November	39	66	555	--	35	8	703
December	41	62	468	--	35	8	614
January-December	493	1,370	6,560	--	460	97	8,980
1999:							
January	43	108	500	--	34	10	695
February	43	111	502	--	33	9	697
March	45	113	498	--	30	9	694
April	43	116	432	--	25	9	626
May	45	117	422	--	30	9	623
June	41	112	419 r/	--	27	9	608 r/
July	41	115	456 r/	--	28	10	650 r/
August	42	114	449	--	24	10	638
January-August	343	905	3,680	--	231	73	5,230
Stocks:							
1998:							
August	18	14	528	--	48	16	625
September	16	28	497	--	41	16	598
October	18	18	523	--	52	16	626
November	15	18	514	--	41	16	604
December	18	17	431	--	36	16	517
1999:							
January	29	25	416	--	28	17	514
February	25	22	403	--	32	16	498
March	27	26	419	--	26	17	515
April	26	24	410	--	20	17	497
May	27	19	406	--	20	18	490
June	33	18	404	--	19	20	493
July	31	20	414	--	18	18	502
August	36	22	401	--	23	17	499

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Does not include materials used in making primary tungsten products.

3/ Includes estimates.

4/ Includes tungsten chemicals.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF TUNGSTEN, BY COUNTRY 1/

(Metric tons, tungsten content)

Period and country of origin	Ores and concentrates	Ammonium tungstates	Ferro- tungsten	Metal powder	Tungsten carbide powder	Other 2/	Total	Total year to date
1998	4,750	1,920	599	459	944	3,110	11,800	XX
1999:								
May	383	102	43	23	67	312	930	4,350
June	662	144	56	48	87	392	1,390	5,740
July:								
Australia	--	--	--	--	--	--	--	167
Austria	--	--	--	--	2	2	4	21
Belgium	--	--	--	1	--	--	1	2
Bolivia	28	--	--	--	--	--	28	191
Burma	91	--	--	--	--	--	91	91
Canada	--	--	--	1	22	--	22	258
China	--	89	41	2	3	149	284	3,050
Czech Republic	--	--	--	--	--	--	--	(3/)
Estonia	--	--	--	--	--	--	--	(3/)
France	--	--	--	--	--	(3/)	(3/)	2
Germany	--	19	1	1	20	7	48	173
Hong Kong	--	--	--	--	--	(3/)	(3/)	1
Hungary	--	--	--	--	--	1	1	7
India	--	--	--	--	--	--	--	(3/)
Ireland	--	--	--	--	--	--	--	(3/)
Israel	--	--	--	--	5	1	6	59
Italy	--	--	--	--	(3/)	--	(3/)	(3/)
Japan	--	--	--	(3/)	--	3	3	24
Kazakhstan	--	--	--	--	--	--	--	461
Korea, Republic of	--	--	--	--	10	--	10	10
Luxembourg	--	--	--	--	--	--	--	26
Mexico	13	--	--	--	--	(3/)	13	27
Mongolia	--	--	--	--	--	--	--	23
Netherlands	--	--	--	--	--	(3/)	(3/)	1
Peru	--	--	--	--	--	--	--	11
Portugal	--	--	--	--	--	--	--	185
Russia	100	--	--	--	--	86	186	1,510
Rwanda	--	--	--	--	--	--	--	14
Singapore	--	--	--	--	--	--	--	(3/)
South Africa	--	--	--	--	--	--	--	(3/)
Spain	--	--	--	--	--	--	--	(3/)
Sweden	--	--	--	--	--	(3/)	(3/)	(3/)
Switzerland	--	--	--	--	--	1	1	3
Taiwan	--	--	--	--	(3/)	--	(3/)	(3/)
Thailand	--	--	--	--	--	--	--	11
United Kingdom	--	--	--	20	--	(3/)	20	134
Total	232	108	42	24	61	250	717	6,460
Total, year to date	2,370	1,210	425	187	465	1,810	6,460	XX

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes other unwrought tungsten, wrought tungsten, calcium and other tungstates, tungsten oxides, tungsten chlorides, other tungsten compounds, ash and residues containing mainly tungsten, and other mixtures of inorganic compounds containing tungsten. Tungsten content estimated in part.

3/ Less than 1/2 unit.

Note: Imports of waste and scrap in July 1999 totaled 174 metric tons, tungsten content.

Source: Bureau of the Census.

TABLE 7
U.S. EXPORTS OF TUNGSTEN, BY COUNTRY 1/

(Metric tons, tungsten content)

Period and country of destination	Ores and concen- trates 2/	Ammonium tungstates	Metal powder 2/	Tungsten carbide powder	Other 3/	Total	Total year to date
1998	10	287	851	1,240	467	2,860	XX
1999:							
May	(4/)	(4/)	103	93	22	219	955 r/
June	2	--	40	23	43	108	1,060
July:							
Afghanistan	--	--	--	--	--	--	(4/)
Argentina	--	--	--	--	--	--	1
Australia	--	--	(4/)	--	(4/)	1	9
Austria	--	--	--	7	--	7	9
Belgium	--	38	--	(4/)	(4/)	38	130
Bolivia	--	--	--	(4/)	--	(4/)	1
Brazil	--	--	1	(4/)	16	17	32
Canada	--	--	4	17	3	24	145
Chile	--	--	--	--	--	--	3
China	--	--	--	--	(4/)	(4/)	2
Colombia	--	--	--	--	--	--	(4/)
Congo (Kinshasa)	--	--	--	--	--	--	8
Costa Rica	--	--	--	--	--	--	(4/)
Czech Republic	--	--	--	--	--	--	5
Denmark	--	7	--	--	--	7	7
Finland	--	--	--	--	--	--	1
France	--	--	2	13	(4/)	15	44
Germany	--	--	20	16	21	57	370
Hong Kong	--	--	--	--	2	2	29
Hungary	--	--	(4/)	--	(4/)	(4/)	5
India	--	--	(4/)	--	4	4	31
Indonesia	--	--	--	--	(4/)	(4/)	1
Ireland	--	--	--	2	--	2	7
Israel	--	--	--	--	1	1	44
Italy	--	--	(4/)	7	(4/)	8	63
Japan	--	--	2	2	2	6	42
Korea, Republic of	--	--	--	1	(4/)	1	13
Luxembourg	--	--	--	--	--	--	(4/)
Macao	--	--	--	--	--	--	(4/)
Malaysia	--	--	--	--	--	--	1
Mexico	--	--	--	(4/)	2	2	34
Monaco	--	--	--	--	--	--	(4/)
Netherlands	13	--	(4/)	1	(4/)	14	67
Netherlands Antilles	--	--	--	--	--	--	(4/)
Norway	--	--	--	--	--	--	(4/)
Philippines	--	--	--	--	--	--	(4/)
Poland	--	--	--	--	--	--	2
Saudi Arabia	--	--	--	--	--	--	(4/)
Singapore	--	--	1	(4/)	(4/)	1	6
South Africa	--	--	--	--	--	--	19
Spain	--	--	(4/)	--	(4/)	1	6
Sweden	--	--	--	(4/)	(4/)	(4/)	70
Switzerland	--	--	1	--	(4/)	1	17
Taiwan	--	--	3	--	1	4	13
Thailand	--	--	--	--	(4/)	(4/)	(4/)
Turkey	--	--	--	--	--	--	1
United Arab Emirates	--	--	--	--	--	--	(4/)
United Kingdom	--	--	3	3	1	7	44
Venezuela	--	--	--	1	--	1	2
Total	13	45	38	70	56	222	1,280
Total, year to date	19	95	428	445	298	1,280	XX

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Tungsten content estimated from reported gross weight.

3/ Includes wrought tungsten, ferrotungsten, and other tungstates. Tungsten content estimated in part.

4/ Less than 1/2 unit.

Note: Estimated exports of waste and scrap in July 1999 totaled 61 metric tons, tungsten content.

Source: Bureau of the Census.